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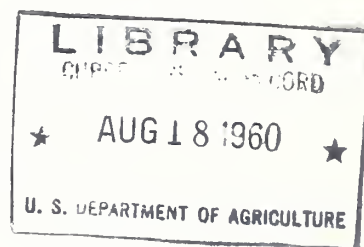
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# THE AGRICULTURAL SITUATION IN EASTERN EUROPE

V. Yugoslavia



Foreign Agricultural Service

UNITED STATES DEPARTMENT OF AGRICULTURE





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 <u>NOTE:</u>	
1 hectare	= 2.471 acres
1 metric quintal	= 220.46 pounds
1 metric ton	= 2,204.6 pounds

# X THE AGRICULTURAL SITUATION IN EASTERN EUROPE ,

## V. YUGOSLAVIA X

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### Position of Agriculture in the Economy

Yugoslavia, with a population of approximately 18.5 million, is a federation of six Republics. It is the largest of the Balkan countries, about the size of the State of Wyoming, covering an area of 98,800 square miles. This includes 3,200 square miles acquired from Italy after World War II. About 32 percent of the total area is utilized for field crops, vineyards, and orchards; natural meadows (8 percent) and pastures (18 percent) make up 26 percent; and about 35 percent is forest land. The remaining 7 percent is unproductive area.

Agriculture is a major sector of the Yugoslav economy. In 1958 over half the population was dependent on agriculture, and the share in the national income derived from agriculture during 1954-58, as officially calculated, averaged 29 percent annually. Before World War II about 77 percent of the population was dependent on agriculture and 44 percent of the national income came from agriculture--decreases that reflect the progress made in industrialization, partly because of the emphasis that has been placed on industry in the government's policy.

### Physical Features

#### Topography

Yugoslavia is rimmed to the west, south, and east by a series of mountain chains which decrease in elevation as they slope inward to the northeast and the Danube River, into which most of the country's drainage finds its way. In marked contrast to the rest of the country, the northeast forms a broad level plain. This plain of alluvial and loess soils, largely comprising the Province of Voivodina in Serbia and eastern Slavonia in Croatia, supports a productive agriculture. South of Voivodina, in Serbia proper, lies a rolling region of gentle and fertile slopes, also supporting a productive agriculture.

The remainder of the country is largely mountainous from the Alpine formation in Slovenia in the northwest to the rugged Balkan Mountains in the southeast on the Greek-Bulgarian frontier. Most of this mountainous area serves agriculture largely for pasture and rough grazing only. There are, however, scattered depressions of various sizes, known as polja, which are suited to agriculture, some of them for a very short season, when not flooded. They are small, fertile depressions pocketed in the mountains where an accumulation of limestone soil from the eroded mountains has become deep enough



for cultivation, and are found mostly in the karst areas along the Adriatic coast. Also there are certain favored valleys in the mountains of Bosnia and Hercegovina and Macedonia where specialized crops, such as tobacco and, much less important, cotton and rice, are grown.

### Climate

Yugoslavia's climate varies from continental to subtropical. On the Adriatic coast and in the valleys of Hercegovina and Macedonia, the Mediterranean type prevails, while the continental climate of inland Europe is more common to the mountains and northeastern plain. There are wide ranges in temperatures and precipitation, but most of the agricultural land suffers from low rainfall. Beginning in 1950, severe droughts occurred in 4 alternate years. During the past century there were 28 drought seasons.

### Land Tenure

#### Summary of Present System

The goal of the Communist government's policy is the eventual replacement of private enterprise by a government-controlled economy. Through this means increased production is to be achieved throughout the entire national economy. In the early days of the new regime, the government believed this could be done in the field of agriculture by the establishment of collectives, or Peasant Work Cooperatives (PWC), and State Farms.

The first step in this direction after World War II was an agrarian reform in August 1945. At that time many of the beneficiaries were allotted land for the purpose of farming it collectively in PWC; some of them organized collectives directly after gaining possession of the land. In July 1946 the PWC were legalized. The same law also provided that members of the General Agricultural Cooperatives (GAC) could pool their holdings for cooperative production. These cooperatives had existed before World War II and had operated similarly to any Western-type cooperative. Emphasis at first was placed on the organization of PWC. However, by November 1951 the drive for these collectives was abandoned. Government policy began to emphasize the role of the General Agricultural Cooperatives which still remained in most Yugoslav villages.

The government's hope of rapidly developing a highly productive agriculture through collectivization had been dimmed by the peasants' opposition and lack of incentives. The peasants' tradition of land ownership is deeply rooted; to them ownership represents economic security and personal freedom. The Yugoslav government had broken with the Cominform at the end of 1948, so was free to follow its own method of attempting to achieve simultaneously higher production and socialization of agriculture.

The GAC are now the vehicles for increasing socialization in the villages. By developing special forms of cooperation, the government hopes to strengthen socialist relations and propensities, while at the same time increasing production on the land, which at the present time is promised to remain under private ownership.



TABLE 1.--Farms: Number and area in the socialist and private sectors, selected years 1/

Classification	1931 2/			1952			1956		
	Farms		Area	Farms		Area	Farms		Area
	: Total	: Percent	: of total	: Total	: Percent	: of total	: Total	: Percent	: of total
	: Number	: 1,000 ha.:	Percent	: Number	: 1,000 ha.:	Percent	: Number	: 1,000 ha.:	Percent
<b>Socialist sector:</b>									
State farms.....	165	76	.7	666	432	3.5	883	603	5.0
Farms of institutions and schools.....	--	--	--	4,105	300	2.4	437	110	.9
Peasant work cooperatives.....	--	--	--	4,792	1,731	14.2	578	213	1.8
General agricultural cooperatives.....				3/7,295	3/ 101	.8	3/5,851	3/ 181	1.5
Total.....	165	76	.7	16,858	2,564	20.9	7,749	1,107	9.2
<b>Private sector:</b>									
Less than 2 hectares:									
Private plots of PWC members.....	0	0	--	331,000	248	2.0	36,000	34	.3
Individual holdings.....	672,000	693	6.5	611,000	727	6.0	697,000	831	6.9
Total.....	672,000	693	6.5	942,000	975	8.0	733,000	865	7.2
2 - 5 hectares.....	677,000	2,288	21.3	796,000	2,702	22.1	933,000	3,322	27.5
5 - 10 hectares.....	407,000	2,873	26.8	431,000	2,998	24.5	4/384,000	4/2,526	20.9
10 - 20 hectares.....	174,000	2,381	22.2	153,000	2,026	16.5	5/317,000	5/4,254	35.2
over 20 hectares.....	56,000	2,411	22.5	37,000	980	8.0	0	0	--
<b>Total:</b>									
Excluding plots of PWC members.....	1,986,000	10,646	99.3	2,028,000	9,433	77.1	2,331,000	10,933	90.5
Including plots of PWC members.....	--	--	--	2,359,000	9,681	79.1	2,367,000	10,967	90.8
Total farms.....	1,986,000	10,722	100.0	2,376,000	12,245	100.0	2,375,000	12,074	100.0

1/ Data in this table refer to total land (productive and unproductive) in farms, within agricultural enterprises. Figures are for end of year shown.

2/ Excludes data on territory acquired from Italy.

3/ Number represents total number of cooperatives, not number of farms owned and operated by them. Area, however, indicates the total area owned and operated by the cooperatives as farms.

4/ Classification is for 5-8 hectares.

5/ Classification is for over 8 hectares.

Statistički Godišnjak 1936, Kraljevina Jugoslavija.

Statistički Godišnjak 1958, Federativna Narodna Republika Jugoslavija.

TABLE 2.--Agricultural land: Tenure, by sector, 1958

Sector	Farms	Plow-land	Orchards and vineyards	Meadows	Total Pastures	Total agricultural land
	: Number	: Percent	: Percent	: Percent	: Percent	: Percent
Social sector:						
State sector:						
State farms.....	713	4.8	3.8	2.5	4.4	3.6
Farms of institutions and schools..	291	.3	.5	.4	.3	.6
Total.....	1,004	5.1	4.3	2.9	4.7	4.2
Cooperative sector:						
Peasant work cooperatives.....	376	2.1	.6	.3	1.7	1.3
General agricultural cooperatives <sup>1/</sup>	3,000	1.6	1.9	1.6	1.6	1.8
Total.....	3,376	3.7	2.5	1.9	3.3	3.1
Used in common.....	--	--	--	--	--	13.5
Private sector.....	(2/)	91.2	93.2	95.2	92.0	79.2
Total.....	--	100.0	100.0	100.0	100.0	100.0
Total area (1,000 ha.)	1,000 ha.	1,000 ha.	1,000 ha.	1,000 ha.	1,000 ha.	1,000 ha.
	(2/)	7,646	677	1,920	10,243	14,963

<sup>1/</sup> Represents not number of cooperatives but number of farms owned and operated by the General Agricultural Cooperatives; the land is either leased by them or is nationalized land which has been assigned to them.

<sup>2/</sup> Not available.

Based on data in Statistički Godišnjak FNRJ, 1959;  
Monthly Review of Yugoslav Economic Statistics, INDEKS, Numbers 10 and 11, 1959;  
Statistički Bilten, No. 151, Sept. 1959.

Farming on small private holdings, which has prevailed for centuries, still predominates in Yugoslavia. In spite of the government's attempts to socialize agriculture, at the end of 1956 private farms had about 90 percent of all land (productive and unproductive) in farms; <sup>1</sup>/ 9 percent was in the socialist sector; and less than half of 1 percent was farmed privately in the small plots which the collectives had allotted to each member household.

Data on the total area (productive and unproductive) in private farms after 1956 are not available. However, in relation to total agricultural land the private farmers in 1958 owned 79 percent. The socialist farms, which at their peak in 1951 never incorporated more than 25 percent of the total agricultural area, in 1958 occupied 7 percent, and the remaining 14 percent was public pasture. According to Yugoslav statistics this area is classified as part of the state sector. However, it is not actually a part of the State Farms as such; it is pastureland (43 percent of total pastureland) that is used in common by all farmers. The use of such pastureland by all farmers in a community has been the custom for generations and is one that was widespread in many areas of Europe. Excluding pastureland, the private farmers in 1958 were in possession of 92 percent of the agricultural land, while the socialist sector was in control of 8 percent.

#### Land Reforms, 1919 and 1945

After World War I when the South Slavs were united into what is present Yugoslavia, a land reform limiting ownership to 500 hectares (1,240 acres) was effected. In all, about 200,000 peasants obtained an average of less than 3 hectares each from a total of 575,000 hectares. In parts of Yugoslavia, the reform resulted only in a shift in title to small plots of land already being tilled by peasants as tenant farmers, while in other areas the land already was farmed on privately owned small holdings. Therefore, before World War II Yugoslavia in general, was a country of owner-operated small holdings. Many peasants had no land at all. Industry was not sufficiently developed to absorb the growing population and there was no outlet from the overcrowded land except emigration.

The Agrarian Reform Law enacted in August 1945, not only assisted in the organization of collectives, but also served as a gesture to satisfy the hunger for land. According to the law, private holdings were limited to 25 or 30 hectares of arable land; all farms with a total area of more than 45 hectares were expropriated. At that time less than 3 percent of the farms with about 23 percent of the farm land were larger than 20 hectares and it was actually this small number of larger farms which were the most efficient producing units.

The bulk (47 percent) of the land involved in the reform was expropriated from peasants of German origin and other so-called enemies of the people. This, and the rest, was distributed as follows:

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<sup>1</sup>/ This does not include public pastureland.



<u>To:</u>	<u>1,000 hectares</u>
Individual peasants.....	797
State Farms.....	288
Other state enterprises...	40
Health and other institutions.....	20
General agricultural cooperatives.....	41
Forests.....	380
Total	1,566

The agrarian reform of 1945 did little to help production. It only contributed to decreasing the average size of the privately owned farms. Before the war 68 percent of the farms were less than 5 hectares each and the average size of all holdings was 5.4 hectares. At the end of 1948, when the private sector comprised 89 percent of the total farmland, the proportion of small uneconomical holdings was unchanged (68 percent) and the average size of all private holdings (excluding private garden plots of PWC members) had been reduced to 4.8 hectares. Four years later, at the end of 1952 when 77 percent of all farmland was in privately owned farms, 69 percent of the farms were less than 5 hectares and the average size of all private holdings was 4.7 hectares.

In 1953 land ownership was further restricted, when after the abortive attempt to collectivize agriculture, a Land Fund Law limiting land ownership to 10 hectares (15 in special cases) of arable land was enacted. Three years later, at the end of 1956, the average size of private farms was unchanged and the proportion of holdings less than 5 hectares in size had increased to 70 percent. At that time 90 percent of all farmland was in the private sector.

### Peasant Work Cooperatives

The first Peasant Work Cooperatives (PWC) were organized in 1945 at the time of the Agrarian Reform. In addition to the land farmed collectively, the PWC regulations allowed each member household a plot of ground up to 1 hectare in size for its private use as a kitchen garden and for maintaining a limited number of livestock. Members were obliged to remain in the collective for at least 3 years.

After an accelerated drive for membership in the PWC, which began in 1948, collectivization reached its peak by mid-1951. At that time 18 percent of the farm households and the same proportion of the agricultural land were in the PWC. Few of them were well managed. Fragmentation, lack of farm machinery, and poor transportation facilities added to their difficulties. Also in spite of preferential treatment, the member peasants made determined efforts to withdraw from the PWC as their 3-year terms of membership expired.

TABLE 3.--Collectivization: Development in Yugoslavia, 1945-58

December	Peasant work : cooperatives	Member households			Area <sup>2/</sup>		
		Total	Percent of total <sup>1/</sup>	Total	Percent of total	Total	Percent of total
	Number	Thousands	Percent	: 1,000 hectares	Percent		
1945.....	31	2	.1	(3/)	--		
1946.....	454	25	1.1	122	.9		
1947.....	779	41	1.8	211	1.6		
1948.....	1,318	68	3.0	324	2.4		
1949.....	6,545	342	14.2	1,910	13.8		
1950.....	6,835	404	16.8	2,372	17.2		
1951:							
June.....	6,971	429	17.9	2,431	17.6		
December.....	6,888	409	17.0	2,297	16.5		
1952.....	4,792	331	13.8	1,731	12.5		
1953.....	1,236	62	2.6	329	2.3		
1954.....	924	48	2.0	282	1.9		
1955.....	704	48	2.0	233	1.6		
1956.....	578	36	1.5	213	1.4		
1957.....	508	(3/)	(3/)	216	1.4		
1958.....	376	(3/)	(3/)	205	1.4		

<sup>1/</sup> Total households 2.3 million 1945-48; 2.4 million thereafter.

<sup>2/</sup> While total area data represent all land included in PWC (except the private plots of members) the percentages represent the proportion of total agricultural land each year. They are indicative since only an insignificant percentage of collectivized land is other than agricultural.

<sup>3/</sup> Not available.

Statistički Godišnjak FNRJ, 1958 and 1959; Yugoslav press.

In 1951 when the policies of the whole economic system of the country were beginning to shift toward Yugoslavia's own socialist doctrines, collectivization was reappraised. By November of that year, according to a Party Directive and in line with the changing policy, the drive for PWC was officially abandoned and all such collectives that were economically weak were dissolved. Between December 1951 and December 1958 the number of PWC declined from almost 7,000 to 376 and their share in the total agricultural land decreased from 18 to less than 2 percent. The General Agricultural Cooperatives were to replace the PWC as the principal means for socializing agriculture.

### General Agricultural Cooperatives

Emphasis on the role of the General Agricultural Cooperatives has continued to increase each year. While still exhibiting some outward appearance of free enterprise, the GAC are being reorganized to become the economic centers of the villages, and the farmers are becoming more dependent on them as they are assigned more and more responsibility in implementing government policy. They handle crop and livestock purchasing and contracting; they provide farm credit; and they purchase farm machinery and equipment for providing custom work for both members and nonmembers. Nonmembers pay higher fees than do the members, who purchase shares in the cooperative for membership at a nominal price. It is planned that the GAC eventually will include all production, processing, and trade of the private peasants of the surrounding area. They have received additional investment credits to finance the development of marketing and transportation of agricultural products. At the end of 1961 they are to have 25,000 tractors (63 percent of the planned total for the country at that time). At the end of 1958 they owned 10,000 tractors.

Membership in the cooperative is voluntary, and it is stressed constantly that the peasants joining will retain ownership of their land. Membership operations in the cooperatives are carried on in three different ways--cooperation in common production, contracts, and services. Members who collaborate in common production share with the cooperative, in various ways, all receipts derived from the crops. In 1958 about 200,000 farm households were collaborating with the GAC in common production of field crops and fruit on about 175,000 hectares. In addition about 70,000 farmers were cooperating in livestock breeding. It is anticipated that by the end of 1961 the GAC will have extended cooperation in common production to about 1,750,000 hectares of plowland, which is about one-fourth of the present plowland area. The final goal is that the cooperatives will organize all production under contracts, thus insuring the use of modern techniques and compliance with overall production plans. The government's aim is to increase the peasants' cooperation by demonstrating how, through the GAC, their profits and standard of living can be improved.

In addition to the functions performed for the private farmers some of the GAC maintain farms which they cultivate as their own. The land has been leased by them or is nationalized land which has been assigned to them. In 1958 there were about 3,000 of these farms with a total area of 288,000 hectares. At the end of 1958 there were about 5,200 GAC with a membership of 1,370,000.



## State Farms

The first socialist State Farms were established at the time of the Agrarian Reform of 1945 when 288,000 hectares of the expropriated land were allotted for that purpose. They were organized to produce breeding stock, to develop improved seed for distribution to other producers, and to act as a type of model farm where farmers could observe advantages of large-scale farming and up-to-date methods in general. They also were supposed to supply the government with essential agricultural products. Their role in production, however, has not been important in most years. During 1958 their share in total production of wheat and corn amounted to about 7 percent. However, almost exclusive use of improved wheat seed and hybrid seed corn slightly increased their relative importance in 1959.

The State Farms still have many difficulties to overcome. They are deficient in farm machinery and buildings, although improving; much of their equipment is of poor quality, some of it having been inherited from the dissolved Peasant Work Cooperatives; and they lack sufficient trained workers and qualified specialists. One of the handicaps to increased production (common to most Yugoslav farms) is fragmentation, but this is being overcome in some cases through consolidation. Only through consolidation of the land can rational mechanization be applied or good crop rotation be introduced on an economic basis.

In recent years the State Farms have been favored with increased investments, intended to increase their production potentialities. Recent policy provides that those State Farms located in the grain producing areas are to concentrate on grain and meat production, except those near large towns or processing centers. Emphasis will be on vegetables and milk in those near cities and on industrial crops (hemp, sugar beets, etc.) in those near processing plants. Those located in mountainous areas are to concentrate on livestock farming or, where favorable conditions exist, on fruit and wine production. The majority of the State Farms, as well as the largest, are in Voivodina, which is part of the country's principal grain region. In 1958 about 20 percent of the arable land in Voivodina was in State Farms (11 percent) and PWC (9 percent).

The State Farms and other public farms, such as those belonging to agricultural institutions and schools, make up the state sector of agriculture. At the end of 1958 there were 713 of the former and 291 of the latter, together comprising 4 percent of the total agricultural area of Yugoslavia.

## Fragmentation

Extreme fragmentation of peasant holdings, the result of constant division of properties and transfer of ownership through inheritance, has long been a handicap to efficient farming in Yugoslavia. Holdings as small as 5 hectares frequently have numerous scattered parcels located at varying distances and directions from the villages and too small for economic cultivation. Also boundary margins of these plots add to a large area of uncultivated land.



The Agrarian Reform of 1945 aimed at preventing further fragmentation by providing that the land could not be given away, sold, mortgaged, or rented for a period of 20 years. Recipients were obliged to live on the land and cultivate it, but many holdings were inadequate to support rapidly growing families or to keep all members employed. Another attempt to reduce fragmentation was made in 1954 when a land consolidation decree was issued permitting landowners to buy or trade land in order to consolidate their holdings within the 10-hectare limit.

The Land Fund Law of May 1953 which limits land ownership to 10 hectares of arable land (15 hectares in special cases where land is poor or where families cultivate cooperatively) added to the problem of scattered parcels, especially for the farms within the socialist sector. About 276,000 hectares were expropriated in small parcels from 66,000 farms which were affected by the law and distributed to State Farms, Peasant Work Cooperatives, and General Agricultural Cooperatives. The land is not contiguous to the enterprises which received it but is scattered about in numerous plots. State Farms were the principal recipients and, in many cases, new farms were organized to put the scattered plots under one management. At the end of 1957, according to cadastral data, the agricultural area of Yugoslavia was split into 30 million parcels, averaging roughly over 10 parcels per farm of an average size of about 5 hectares.

Having failed to realize its hopes of land consolidation and large-scale farming through collectivization, it is evident that the government now aims at the same goal through the General Agricultural Cooperatives. Through them, it is planned to increase the size of the units and on this basis to modernize and gradually socialize agriculture. A new Law on Exploitation of Agricultural Land, enacted in October 1959, should facilitate consolidation of the small holdings. It is intended to accelerate the use of the best methods of agriculture where equipment is available. Private farmers who do not operate their holdings in accordance with approved regional practices will be required to lease their land, giving priority to cooperatives, State Farms, and other agricultural organizations. Since availability of the means of production according to approved methods is through the General Agricultural Cooperatives, most private farmers will be obliged to affiliate themselves with a cooperative. The law not only should assist in consolidation of the land but, by promoting greater participation of the peasants in the cooperatives, should aid the realization of the government's goal of complete socialization of the countryside. Progress, however, will depend upon the degree of peasant resistance.

### Tenancy

Renting of land in Yugoslavia is not widespread but is increasing. In 1957 about 113,000 hectares, or 10 percent of the farmland in the socialist sector, were leased. (State Farms leased 16,000 hectares, the Peasant Work Cooperatives 65,000 hectares, and the General Agricultural Cooperatives 32,000 hectares.) At the same time about 13,000 hectares had been leased out by the socialist sector. Data on rentals by individual producers are not available.

Although rental by the socialist sector from individual producers has not existed very long, the rate is increasing. Rents have been increased, and it is expected that the higher rates will induce more private farmers to let out their land, and seek work in industry.

The leased farmland usually belongs to families that are diminishing in size, widows, and owners who have found work outside agriculture. Usually the owners possess very little beside the land itself and are not able to support themselves by farming.

### Input of Resources

#### Labor and Rural Education

According to the census of 1953, the last year for which such data are available, the total agricultural labor force numbered about 5,176,000 persons, two-fifths of which were women. This represented about two-thirds of the entire labor force of the country. In 1931, the total agricultural labor force was just slightly less but represented about three-fourths of the entire labor force. This decrease in proportion of the agricultural labor force was the result of migration to cities and other industrial centers because of the government's policy of rapid industrialization after the war.

Hired labor represents a very small percentage of the total agricultural labor force and is almost entirely in the socialist sector. Private farms, now generally limited to 10 hectares, are operated almost exclusively by the owners and their families. As of March 31, 1958, agricultural workers made up about 8 percent of all workers in the socialist sector.

The rapid postwar development of activities outside agriculture gave many peasants an opportunity to obtain employment supplemental to the work on their holdings. Such workers have created a new category of "peasant workers," making it difficult to ascertain the actual agricultural labor force because of their dual occupations.

In spite of the fact that the proportion of agricultural population in Yugoslavia has decreased to about 55 percent (1958) of the total compared to 77 percent before World War II, there are still 134 persons dependent on agriculture for every 100 hectares of plowland, or 69 persons for every 100 hectares of agricultural land. This ratio of agricultural population to the agricultural land compares with 49 in West Germany, 31 in Denmark, and 4 in the United States. Such surplus agricultural population in Yugoslavia forms the basis of great manpower reserves. With the planned intensification of agriculture and development of the agricultural processing industry, transport, and trade, it is expected that some of the surplus manpower in agriculture will be deflected to other branches of activity.

At the time of the census of 1953, 25 percent of the people of Yugoslavia were illiterate. There is a theoretical compulsory 8-year education system for all children, but conditions are lacking for its fulfillment. Although 4 years reportedly are available everywhere, in some rural areas many children

do not attend school. Consequently, the general level of education and literacy among the agricultural population is low.

### Mechanization of Agriculture

Although there has been significant improvement in the technical equipment of agriculture, the supply of agricultural implements is still insufficient. Mechanization really has just begun in Yugoslavia. In January 1959 there reportedly were 26,500 tractors, or 1 for every 400 hectares of crop and meadow land, compared to 1 for more than 4,000 hectares in 1939:

	<u>Number of</u> <u>tractors</u>	<u>Hectares of crop and meadow land</u> <u>per tractor</u>
1939.....	2,500	4,160
1948 1/.....	7,500	1,269
1953.....	11,648	844
1957.....	14,696	694
1958.....	20,500	500
1959.....	26,500	387
1961 (plan)....	40,000	--

1/ The increase shown to 1948 includes tractors, mostly from the United States, which were provided by the United Nations Relief and Rehabilitation Administration (UNRRA).

According to a survey of 129,548 households made January 15, 1957, about 45 percent had no agricultural implements, 45 percent had regular plows, 7 percent only wooden plows, 15 percent portable sprayers, 7 percent fodder cutters, and less than 2 percent had sowing and reaping machines. The same survey revealed that 80 percent of the holdings had no draft horses and 47 percent had no work livestock of any kind. In January 1958 there were only 2,719,000 work animals, hardly more than 1 per farm; horses represented 39 percent, oxen 33 percent, and cows 28 percent. The private farmers were in possession of 98 percent of these work animals.

Modern-type agricultural machinery produced in Yugoslavia today is manufactured mostly under licensing arrangements. Production, however, does not entirely meet needs and some tractors are imported. According to plan, a total of 22,000 or an average of 4,400 per year are to be imported during the 5-year period 1957-61. Other farm machinery, such as plows, harrows, and drills, also is manufactured in Yugoslavia. Output of this type more than doubled between 1953 and 1957.

Machine Tractor Stations (MTS) were disbanded early in Yugoslavia, and their equipment and machinery turned over to the farms in the socialist sector of agriculture. Servicing stations began in 1947 as successors of the MTS.

The Tractor and Machine Industry maintains servicing stations and substations in numerous towns and villages. Through these stations, which also sell agricultural machinery and spare parts, the factories provide repairs of



agricultural machines as well as some training in tractor operation. The repair and maintenance service reportedly is organized poorly but is commanding more attention with the increased use of machinery. Some cooperatives and State Farms have their own servicing stations.

Early in 1958, subsidies on farm machinery and equipment were reduced and, for machines designed for animal draft or hand use, they were eliminated. Machinery now subsidized is mainly that purchased by the socialist sector, such as tractors, tractor-drawn equipment, and large-scale machines. The subsidies also are applicable to equipment purchased by private farmers but few farmers have sufficient capital for such investments. During 1958 about 21,000 tractors were owned by farms in the socialist sector.

In a country like Yugoslavia, use of tractor-drawn equipment is practicable on about half of the plowland, most of which is in the plain area of the northeast. Even there, the extreme parcellation of the holdings limits its use. Only through cooperation or consolidation (or both) of the small plots can mechanization become practicable.

### Fertilizer

Consumption of commercial fertilizer has increased materially since the war in Yugoslavia, especially in recent years, but is still fairly low. In 1958, estimated availability for consumption was 33 kilograms of pure nutrient per hectare of cropland. This was five times that available in 1954. In West Germany, by contrast, consumption of fertilizer in 1957-58 amounted to 150 kilograms of pure nutrient per hectare of total agricultural land.

Until recent years most of the fertilizer had been purchased by the farms in the socialist sector, all of which were allowed a government subsidy. Only those individual peasants who contracted to produce certain crops were allowed the discount on the purchase price of fertilizers. In the fall of 1956 the subsidy was made available to all producers. Private peasants are using increasing amounts as the advantages from their use continue to be apparent. The subsidy was reduced early in 1958, but consumption increased during that year when availability was more than one-third higher than during the previous year.

By 1961, availability of fertilizer is to reach about 2.4 million metric tons product weight, according to plan. This compares with 1.3 million tons in 1958 when about three-fourths of the supply was imported. Since the import of such large quantities would aggravate the balance of payments problem, the Yugoslavs are expanding facilities for producing nitrogenous and superphosphate fertilizers. The sulphuric acid and other necessary raw materials for fertilizer manufacture can be supplied domestically, while the phosphate rock must be imported. Postassium fertilizers also must be imported.

Before the war, farmers used about two-thirds phosphoric acid and one-third nitrogenous fertilizers. In 1958 the proportion of nitrogen was about the same; phosphoric acid was 38 percent, and potash 28 percent.

TABLE 4.--Commercial fertilizers: Availability by source and kind, specified years 1939-58

Source and kind	: 1939	: 1954	: 1957	: 1958
	:1,000 m.t.:	:1,000 m.t.:	:1,000 m.t.:	:1,000 m.t.:
(PRODUCT WEIGHT)				
Domestic production: 1/				
Calcium cyanamide.....	2/ 15.6	15.4	17.7	21.7
Ammonium sulphate.....	0	2.4	7.2	8.8
Super phosphate 3/.....	27.8	79.4	215.8	264.9
Total.....	43.4	97.2	240.7	295.4
Imports: 4/				
Calcium ammonium nitrate.....	0	77.3	279.5	361.7
Other nitrogenous fertilizers...	0	10.7	7.2	44.9
Natural phosphate 3/.....	14.8	39.9	161.8	147.1
Thomas slag.....	.7	23.4	83.6	106.4
Super phosphate.....	.2	1.4	91.8	154.5
Other phosphate.....	0	(5/)	.4	--
Potassium nitrate.....	0	0	0	10.0
Potassium chloride.....	0	0	88.4	73.2
Potassium sulphate.....	0	.1	3.2	1.2
Potassium salts.....	0	30.1	45.6	122.4
Other potassium fertilizers.....	0	4.6	1.5	3.0
Total.....	15.7	187.5	763.0	1,024.4
(IN TERMS OF PLANT NUTRIENT)				
Domestic production:				
Nitrogen (N).....	3.3	3.7	5.2	6.4
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) 3/.....	5.5	15.9	43.1	53.0
Total.....	8.8	19.6	48.3	59.4
Imports:				
Nitrogen (N).....	0	17.9	59.4	87.9
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) 3/.....	.6	5.2	36.7	52.3
Potash (K <sub>2</sub> O).....	0	10.2	55.4	75.4
Total.....	.6	33.3	151.5	215.6
Total available for consumption:				
Nitrogen (N).....	3.3	21.6	64.6	94.3
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) 3/.....	6.1	21.1	79.8	105.3
Potash (K <sub>2</sub> O).....	0	10.2	55.4	75.4
Total.....	9.4	52.9	199.8	275.0
	Kilograms	Kilograms	Kilograms	Kilograms
Plant nutrient per hectare of cropland.....	1.1	6.5	24.1	33.0

1/ Ammonium nitrate not included because it is not included in Yugoslav statistics of total fertilizer output. In 1958 production reached 23,186 metric tons which is equivalent to about 1 kilogram (plant nutrient) per hectare of cropland.

2/ Excludes 27,700 metric tons exported. 3/ There is a slight duplication in P<sub>2</sub>O<sub>5</sub> since it is not known how much of the imported natural phosphate was used each year in the manufacture of super phosphate. The duplication, however, would amount to less than .5 kilogram of pure nutrient per hectare in any given year.

4/ Exports insignificant, except in 1939; see footnote 2/. 5/ Insignificant.

Based on data in Yugoslav Statistical Indeks (monthly review of Yugoslav economic statistics); Statistički Godišnjak FNRJ, 1959; annual statistics of foreign trade.

Although some manure is used for fertilization, it is usually improperly prepared and is of poor quality.

## Seed

Use of improved seed, like all other modern techniques, had been neglected in Yugoslav agriculture until about 1955. At that time an FAO (Food and Agriculture Organization of the United Nations) specialist spent some time advising the Yugoslav Government about a research program for developing seed production. Since then, production and use of high-quality seed have been subsidized, and efforts have been made to expand the area sown to improved varieties, especially of wheat and corn.

Hybrid varieties of corn especially adapted to Yugoslav conditions are being developed, with parent line generally of U. S. origin. The first hybrid corn (400 tons) from the United States was shipped to Yugoslavia in 1951. In 1957 about 160,000 hectares or 6 percent of the corn area were planted with hybrid corn. In 1959 about 500,000 hectares, or 21 percent of the corn area, were in hybrids. It is planned that in 1960 about 730,000 hectares will be so planted. In 1958 the average yield of all corn was 16.5 metric quintals per hectare. For hybrid corn alone, the average yield was 39.

In 1956 the government started a vigorous program of experimentation with Italian wheat varieties, planting about 40,000 hectares that fall. For the harvest in 1959 about 320,000 hectares--15 percent of the wheat area--were devoted to Italian wheat. In the fall of 1959 about 750,000 hectares (over one-third of the wheat area) were planted to the high-yielding wheat, chiefly by farmers under contract, for harvest in 1960.

The private farmer, by signing a contract with a General Agricultural Cooperative to plant a specified number of hectares to the improved seed, is given credit for the seed, fertilizer, and necessary plowing services from the GAC. The grain produced is then marketed through the cooperative, which retains its payment for services, advice, and the credit involved. Private farmers may obtain the seed without contracting for delivery of the grain, but modern methods are not guaranteed by the cooperatives without contract. Following the excellent results obtained, farmers are reported to be extremely interested in the seed. Average yields of wheat from Italian seed on areas of organized production range from 37 to 44 metric quintals per hectare. On experimental plots the yields are much higher. The average yields for all wheat during 1958 and 1959 were 12.3 and 19.4 metric quintals per hectare, respectively. According to plan, by 1961 the high-quality wheat seed is to be planted on 80 percent of the wheat area and hybrid corn on 50 percent of the corn area.

## Plant and Livestock Protection

Protection of plants and animals from infectious diseases and insect pests has been increasing annually. Most of the increased protection has been for livestock. The Federal government has cooperated with the individual republics in helping develop programs for preventing and eliminating



contagious diseases in animals, and a systematic campaign has been in progress for a number of years. In 1958 there were 20 veterinary institutions and 779 veterinary stations with 2,144 veterinarians directly serving the farmers; in 1954 there had been only 12 institutions, 358 stations and 1,261 veterinarians.

These measures have eliminated foot-and-mouth disease and done much to decrease cases of swine fever and fowl pest, which formerly caused heavy losses. Other chronic diseases, such as bovine tuberculosis and brucellosis, never widespread, also have been substantially reduced. Parasitic diseases, still quite prevalent, and which require longer and more widespread treatment, now are getting increased attention. Until recent years, treatment of these diseases was left to livestock owners. Lacking the means and knowledge, they frequently did not apply adequate or timely remedies and animal losses were high. Efforts to control animal diseases have been concentrated largely on economically important animals--cattle and hogs, and to a lesser extent, horses. Sheep, which suffer more with parasitic diseases, currently are receiving increased attention.

Yugoslav crop production is considerably reduced by insect damage, diseases, and weeds. Information regarding the means of controlling a majority of these causes of crop damage is available but is not being disseminated properly. There is also a lack of equipment and material and, for certain diseases and weed problems, no solutions are available and research is necessary.

Research in applied entomology has been conducted for some years, and facilities for work in insecticides are available, but there is a major gap in the field of herbicides. A feature of Yugoslav agriculture is intercropping and the growing of many crops in close proximity; consequently the question of the level of safety in the use of herbicides is of major importance.

Yugoslavia has about 80 stations for plant protection but too little has been invested in such services to make them effective. The government's plan for increased production by wider application of modern methods includes increased quantities of plant protective agents which in the past have been very limited.

### Rural Electrification

Production and consumption of electricity in Yugoslavia are rapidly increasing. Total production in kilowatt hours had increased from 3,445 million in 1954 to 7,356 million in 1958, and the proportion of electric power consumed by households increased from 12 percent of the total consumption to 18 percent during the same period. While this increase reflects mainly the greater use of household appliances in towns, it also includes an increase in power consumption in the villages. Many of the peasant households, especially in the western part of the country, have started to use electrical appliances, but the increase in village consumption is chiefly the result of peasant households replacing the old-fashioned oil lamps with electric lights.



In 1955 about 31 percent of all village households had electricity. Reportedly, there is today hardly a village where electricity has not been introduced. While there is a large network connecting the hydroelectric power stations with consumers' centers facilitating the electrification of many villages, peasants have built small power stations themselves which supply several villages with electricity.

### Reclamation and Irrigation

Since there is little new land for extending agricultural area in Yugoslavia, increased output in agriculture must be attained through higher productivity. To help accomplish this, irrigation and reclamation must play important roles and are being given added importance.

The unsuccessful 5-year plan (1947-51) included, among its objectives for agriculture, projects for draining 400,000 hectares of land subject to flooding and irrigating 400,000 hectares, as well as improving the existing systems of irrigation and drainage. Most of the planned work was not finished. According to current plans, 1,483,000 hectares will be reclaimed eventually--600,000 hectares by flood control; 730,000 by drainage, mostly in the grain growing areas; 136,000 by irrigation; and 17,000 by erosion and stream control. The goal by the end of 1961 is for completion of all stream control, over half of the drainage, and about two-thirds of the irrigation projects.

At the end of 1957, federal funds were voted for financing large reclamation projects in Voivodina and Macedonia. About 60 percent of the funds were allotted for construction of the Tisa-Danube-Tisa Canal network in Voivodina. Work on this project, the most important of the reclamation projects, was to have begun in 1948 but it was not until 1956 that the Federal Executive Council approved its construction. It is now scheduled for completion in 1966 and will solve the drainage problems of some of Yugoslavia's most fertile areas when completed. Some sections have been completed and producers are obliged to take advantage of the system in areas where its use is available. Farmers reportedly are much interested because yields of sugar beets and corn are said to be excellent.

The irrigation, drainage, and flood control projects in Macedonia also are scheduled for completion in 1966. Over 100,000 hectares will be ready for irrigation upon completion of the work. Other reclamation projects of less importance also have been planned for other areas of Yugoslavia.

### Land Utilization

In 1958 almost three-fifths of the total area of Yugoslavia was classed as agricultural land, of which 51 percent was plowland, 4 percent orchards and vineyards, 13 percent meadows, and 32 percent pastures. Forest land accounted for about a third of the country's area, and the remainder--less than a tenth--represented unproductive land. It is doubtful that a country with so much rugged mountainous area would have such a small proportion of unproductive land. However, much of the agricultural area classed as

TABLE 5.--Land area: Distribution by use, selected averages 1933-57, annual 1958

Classification	1933-37 1/			1953-57			1958		
	Area		Percentage	Area		Percentage	Area		Percentage
	:1,000 ha.		Percent	:1,000 ha.		Percent	:1,000 ha.		Percent
Plowland:									
Cereals.....	6,137	42.0		5,480	37.3		5,580	37.3	
Industrial crops.....	139	1.0		347	2.4		337	2.3	
Edible garden crops.....	461	3.1		471	3.2		490	3.3	
Forage crops.....	362	2.5		541	3.7		616	4.1	
Other (gardens and nurseries).....	2/145	1.0		3/ 4	--		3/ 4	--	
Fallow.....	436	3.0		651	4.4		619	4.1	
Uncultivated.....	0	--		)					
Total.....	7,680	52.6		7,494	51.0		7,646	51.1	
Vineyards.....	225	1.5		273	1.9		275	1.8	
Orchards.....	277	1.9		386	2.6		402	2.7	
Total.....	8,182	56.0		8,153	55.5		8,323	55.6	
Meadows.....	1,932	13.2		1,914	13.0		1,920	12.8	
Pastures.....	4,487	30.8		4,618	31.5		4,720	31.6	
Total agricultural.....	14,601	100.0		14,685	100.0		14,963	100.0	
Agricultural land.....	14,601	57.1		14,685	57.4		14,963	58.5	
Marshes, reeds, and fish ponds.....	2/ 129	.5		70	.3		66	.3	
Forest land.....	7,757	30.3		8,592	33.6		8,831	34.5	
All other.....	3,093	12.1		2,233	8.7		1,720	6.7	
Total area.....	25,580	100.0		25,580	100.0		25,580	100.0	

1/ Postwar boundaries. 2/ Data for Italian territory not separately available; included in "all other". 3/ Nurseries only.

1933-37 data from official statistics of the former Kingdoms of Yugoslavia and Italy; 1953-58 data from Statistički Godišnjak FNRJ, 1958 and 1959.

pastureland is very rough grazing land of poor quality, and the forest area includes devastated forest land as well as scrub areas.

Total agricultural area had increased about 2 percent in 1958 compared to prewar, reflecting increases in orchards and vineyards and pastureland. Some of the increase in the latter apparently had been in some of the rugged mountain areas which had been reclaimed enough to be classified as pastureland. Also, after the Land Fund Law, which limited ownership of land to 10 hectares, became effective in May 1953, there was evidently some change in land classification. Until that year, area of pastureland was reported below the prewar average.

While area of total land utilized for agriculture showed an increase, plowland in 1958 was just approaching the prewar level. The significant change in the use of plowland was the decrease in the area devoted to grains. More emphasis has been placed on forage and industrial crops in line with efforts to increase output of livestock products and to secure raw materials for the processing industry. The increase in area sown to these crops, however, only partly compensates for the decrease in area sown to grains. Uncultivated and fallow land, apparently formerly devoted to grain, also has increased by over 40 percent.

Present plans envisage considerable increases in livestock and crop production. To help achieve this, planted area will be extended and further shifts will be made in the cropping system from cereals to fodder and other crops. Uncultivated areas and fallow land will be reduced.

### Production

Average total gross agricultural output (which includes livestock products produced from imported feed) during the 5 years 1953-54/1957-58 was 5 percent above the prewar average. Livestock products made up slightly more than half of the value of total gross agricultural "end use" production. End-use output of grains represented about one-fifth of total end-use output. Per capita gross agricultural output during the same period was 11 percent below the prewar average. Only the record crops of 1957 and 1959 brought production to a level greatly exceeding the population increase that had taken place compared with prewar.

While gross output of livestock products has exceeded that of prewar since 1955-56, until 1959-60 it had not kept pace with the population increase. During 1953-54/1957-58 average per capita gross livestock production was still 13 percent below the prewar level. Preliminary estimates indicate that during 1959-60 the increase in livestock production will just about equal the population increase.

The increase in crop production during the past few years has been, to a considerable extent, the result of favorable weather conditions after a series of droughts in alternating years from 1950 through 1956. Increased investment in agriculture, permitting greater use of modern practices, and growing confidence of the peasants also have been important factors in raising agricultural production.



TABLE 6.--Indices of gross agricultural production, annual 1952-53/1959-60  
and average 1953-54/1957-58  
(1933-37 = 100)

Year	: Total gross production		: Per capita gross production	
	: Total	: Livestock	: Total	: Livestock
Average:				
1953-54/1957-58....	105	102	89	87
Annual:				
1952-53.....	78	86	70	77
1953-54.....	102	95	90	84
1954-55.....	95	99	82	86
1955-56.....	106	103	90	88
1956-57.....	95	103	80	87
1957-58.....	126	111	105	92
1958-59 <u>1/</u> .....	107	114	88	94
1959-60 <u>1/</u> .....	146	124	118	100

1/ Preliminary.

Foreign Agricultural Service.

With agricultural production on the upward trend, which probably will continue, such problems as transportation, storage, and processing facilities, all of which are inadequate to cope with the quantities produced, assume greater importance. The government now realizes that it is necessary to place increased emphasis on ways and means to insure the adequate handling and utilization of the increasing production.

### Principal Crops

Corn and wheat are Yugoslavia's major crops. They not only occupy about three-fifths of the plowland and account for about one-fifth of the total value of end-use gross agricultural output, but (including imported wheat) represent about three-fifths of the caloric value of food in the national diet. Corn is also an important feed for livestock and is exported whenever there is a good crop. Wheat, an important export before the war, has been a major import but will not need to be imported during 1959-60 for the first time since 1950. The leading industrial crops are tobacco, sugar beets, oilseeds, and hops. Tobacco and hops are exported; sugar and oilseeds as well as vegetable oils have been imported in most years, but sugar production in 1959 was sufficient to make imports unnecessary. Plums occupy first place in fruit production and prunes are an important export. Grapes and apples are also important. Clover and alfalfa occupy almost two-thirds of the forage crop area; the hay is important to the livestock industry and a small amount is exported; some of the seed also is exported.

TABLE 7.--Specified crops: Area harvested, production, and yields, selected averages 1933-59, annual 1955-59

Commodity	Unit	1933-37 <sup>1/</sup>	1955-59 <sup>2/</sup>	1955	1956	1957	1958	1959 <sup>2/</sup>
<b>Corn:</b>								
Area.....	1,000 ha.	2,637	2,520	2,470	2,570	2,590	2,390	2,580
Production.....	1,000 m.t.	4,490	4,710	3,900	3,370	5,660	3,950	6,670
Yield per hectare....	Quintals	17.0	18.7	15.8	13.1	21.9	16.5	25.9
<b>Wheat:</b>								
Area.....	1,000 ha.	2,143	1,922	1,900	1,620	1,970	1,990	2,130
Production.....	1,000 m.t.	2,378	2,742	2,430	1,600	3,100	2,450	4,130
Yield per hectare....	Quintals	12.8	14.3	12.8	9.9	15.7	12.3	19.4
<b>Rye:</b>								
Area.....	1,000 ha.	255	254	278	252	256	248	236
Production.....	1,000 m.t.	213	251	263	205	280	241	265
Yield per hectare....	Quintals	8.4	9.9	9.5	8.1	10.9	9.7	11.2
<b>Barley:</b>								
Area.....	1,000 ha.	428	373	338	353	408	390	378
Production.....	1,000 m.t.	416	476	390	344	604	470	574
Yield per hectare....	Quintals	9.7	12.8	11.5	9.7	14.8	12.1	15.2
<b>Oats:</b>								
Area.....	1,000 ha.	368	356	321	373	402	347	338
Production.....	1,000 m.t.	325	350	278	324	484	259	404
Yield per hectare....	Quintals	8.8	9.8	8.7	8.7	12.0	7.5	12.0
<b>Sugar beets:</b>								
Area.....	1,000 ha.	27	75	70	70	83	71	82
Production.....	1,000 m.t.	499	1,680	1,380	1,130	2,030	1,480	2,380
Yield per hectare....	Quintals	184.8	224.0	197.1	161.4	244.6	208.5	290.2
<b>Tobacco:</b>								
Area.....	1,000 ha.	14	48	42	41	56	53	49
Production.....	1,000 m.t.	12	45	43	31	63	39	47
Yield per hectare....	Quintals	8.6	9.4	10.2	7.6	11.2	7.4	9.6
<b>Sunflower:</b>								
Area.....	1,000 ha.	5	84	104	73	82	74	86
Production.....	1,000 m.t.	8	89	102	59	93	80	112
Yield per hectare....	Quintals	16.0	10.6	9.9	8.1	11.4	10.8	13.0
<b>Potatoes: <sup>3/</sup></b>								
Area.....	1,000 ha.	276	276	261	268	285	277	290
Production.....	1,000 m.t.	1,725	2,616	2,270	2,190	3,310	2,620	2,690
Yield per hectare....	Quintals	61.9	(4/)	86.0	81.0	115.0	94.0	(4/)
<b>Plums:</b>								
Producing trees.....	Millions	5/40.0	56.1	58.0	56.0	53.3	55.8	57.6
Production.....	1,000 m.t.	5/ 414	701	904	180	588	544	1,210
Yield per tree.....	Kilograms	10.3	12.5	15.6	3.2	11.0	9.7	21.0

<sup>1/</sup> Present boundaries.

<sup>2/</sup> Preliminary official estimates.

<sup>3/</sup> Area harvested and yield refer to the main crop only; production includes potatoes interplanted.

<sup>4/</sup> Not available.

<sup>5/</sup> Prewar boundaries.

Official statistics of the former Kingdoms of Yugoslavia and Italy; Statistički Godišnjak, FNRJ, 1959.

## Medicinal and Spice Herbs

Yugoslavia is well known for its medicinal and spice herbs. Most of the herbs grow wild in forests and other areas, but in recent years the cultivation of certain varieties in particular demand has been introduced. No production figures are available but the following quantities exported in 1958 indicate the types grown arranged according to their relative importance in value:

	<u>Metric tons</u>	<u>Million dinars</u>
Sage leaves.....	559	119.2
Poppy capsules.....	1,349	77.3
Lime (Linden) flowers.....	368	74.2
Gentian and marshmallow roots.....	287	30.1
Buckthorn bark.....	540	25.4
Hips.....	373	23.0
Laurel leaves and fruit.....	367	21.0
Juniper berries.....	596	17.8
Pyrethrum flowers and powder.....	157	14.2
Belladonna leaves and roots.....	97	9.3
Coriander and fennel fruit.....	51	4.3
Camomile flowers and powder.....	3	1.3
Cumin and cloves.....	4	.8
Other medicinal plants.....	<u>3,234</u>	<u>216.2</u>
Total.....	7,985	634.8

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During the 5 years 1954-58 an annual average of 95 percent of the exports of sage leaves was shipped to the United States alone.

## Livestock and Livestock Products

Livestock is an integral part of Yugoslav farming, though not so important as in many West European countries. Aside from making up about half the value of total end-use gross agricultural production, livestock and livestock products averaged 45 percent of the total value of agricultural exports during 1953-57 (33 percent in 1958). Animal husbandry contributes about half the income that farmers obtain from farming. And there are large areas in Yugoslavia which can be used for no other agricultural purpose than grazing.

Despite the systematic campaign for animal disease and pest control which has been in progress for a number of years there is still much to be done in the government's effort to advance the livestock industry. In a further attempt to build up the industry and to improve milk production as well as consumption of livestock products, the government has been importing large numbers of breeding animals. All animals must be imported free from disease and must come from countries or from areas within countries not infected with foot-and-mouth disease. They are held in quarantine for 60-90 days and if they show sign of disease they are destroyed.

TABLE 8.--Livestock: Numbers, selected averages 1933-59, annual 1955-59 1/

Type of livestock	1933-37 2/	1955-59	1955	1956	1957	1958	1959
	:Thousands	:Thousands	:Thousands	:Thousands	:Thousands	:Thousands	:Thousands
Cattle.....	4,892	5,069	5,290	5,206	4,947	4,863	5,038
of which cows.....	2,397	2,520	2,496	2,422	2,562	2,628	2,494
Hogs.....	3,868	4,612	4,780	4,655	3,725	4,243	5,656
Sheep.....	11,983	11,168	11,979	11,360	10,622	10,633	11,247
Buffalo.....	63	63	71	67	67	59	51
Horses.....	1,382	1,283	1,242	1,296	1,307	1,296	1,274
Mules.....	25	30	31	30	29	29	29
Asses.....	153	160	166	166	166	166	137
Goats.....	2,272	3/ 218	218	(4/)	(4/)	(4/)	(4/)
Poultry.....	22,092	26,598	24,837	25,938	25,992	28,504	27,721
of which chickens....	19,883	23,173	21,382	22,566	22,613	24,912	24,394

1/ Numbers as of January 15 of year shown.

2/ Estimates based on Jan. 1931 numbers as reported in 1959 Yearbook.

3/ 1955 only.

4/ Not available.

Statistički Godišnjak, FNRJ, 1959.



The chief suppliers of dairy cattle have been the Netherlands (Black and White and a few Red and White), Denmark (Danish Red), and Switzerland (Simmental). Some Black and White cattle also have been imported from West Germany. The Dutch and Danish cattle are chiefly cows and heifers and are being imported to improve milk production, especially on State Farms. The Simmental from Switzerland include a few cows, but are chiefly bulls for improving the domestic Simmental breed, which are kept for milk and meat and serve for draft purposes as well.

The breeding of purebred and crossbred hogs, principally of the meat types, also has been stepped up. Yorkshire Large Whites and a few Berkshires from England and German Whites from Germany have been imported for breeding purposes. This is reflected in the change in hog exports from the heavy domestic fat breeds to the meat type but Yugoslavia's growing meat packing industry has become the largest market for the latter type of hog.

The native Yugoslav sheep, commonly called the Balkan, is a triple-purpose animal, yielding milk, wool, and meat, and is often the peasants' chief means of subsistence, especially in the rugged mountain areas. To improve the quality of the wool, Merino sheep have been imported from France and an extensive breeding program with artificial insemination is being conducted.

Horses, though fewer in number compared to prewar, are still very useful animals in Yugoslavia, where the typical small and fragmented farm does not lend itself to motorization. A few are retained on the large farms in the socialist sector for specialized jobs but they are being replaced gradually by tractors. Mules and asses are important only in the mountainous areas because of the terrain and the shortage of feedstuffs. Buffaloes, of little importance except in Macedonia and Kosmet, are used chiefly as work animals, though they yield some meat and milk of poor quality. Goats are much less numerous than before the war, mostly because of a government program to reduce their number. Before the war they were useful suppliers of milk and hides and skins, as well as meat. Their value as a source of these commodities, however, did not compensate for the damage they did to forest growth.

Poultry raising is an extensive small farm industry of considerable importance in Yugoslavia. It is a source of ready cash income without much investment for many peasants. Also both eggs and poultry, as well as feathers and down, are export products. To establish some pure flocks of such breeds of chickens as Rhode Island Red, Leghorn, New Hampshire Red, and Sussex, Yugoslavia has imported well-selected hatching eggs and chicks. Some specialized poultry farms and some State Farms are producing broilers for export.

Productivity of the livestock herds has been at a very low level but is improving under the government's programs for disease control, breeding improvement, and increased forage production.

During the period 1953-54/1957-58 cattle products (milk 23 percent and cattle 16 percent) accounted for 39 percent of the total value of gross livestock end-use output; hog products represented 35 percent; poultry and sheep each 8 percent; and eggs 9 percent.

Total meat production has exceeded the average prewar production for several years. Mutton and lamb production is still below that of prewar but is offset by increases in beef and veal, pork, and poultry. Per capita consumption, however, has not reached the prewar level, because of population increase and increasing exports.

Pork is the principal meat product in the diet, and pork fat furnishes about two-thirds of total fat consumption. Before the war, not only live hogs but pork meat and fat were important items of export. Since the war exports of hogs have continued at a lower level, but lard has been imported until this year. Yugoslavia now exports chiefly cattle, beef and veal, and pork products.

Egg production has increased since the war because of increased poultry numbers. Exports also have increased considerably since the war. During 1958, egg exports accounted for 14 percent of the value of exports of livestock products.

Total production of milk, which is derived from cows, sheep, and goats, plus a small amount from buffaloes, has exceeded prewar production for several years because of increased cow numbers and yields of milk per cow. Goat's milk, which before the war furnished about 10 percent of the total milk supply, has declined to less than 1 percent of the total supply because of the large reduction in goat numbers.

It is estimated that the bulk of the milk production is consumed as fresh or sour milk (yogurt); the rest is used principally for cheese, butter, and kajmak (a butter substitute). Most dairy products are intended for home consumption but small amounts of Katschkavlj cheese (similar to the Italian Cacciocavallo, but made from ewe's milk) and some soft cheese are exported. Because of improvement in cattle breeds, milk production no doubt will continue to increase. Farmers who formerly produced mainly for their own use now can sell to the local cooperatives at favorable prices.

The quality of wool produced in Yugoslavia is largely of a coarse carpet-grade type. Small amounts are exported but Yugoslavia is a net importer of raw wool. Production, which is below prewar level, has been decreasing but, if the cross-breeding and disease and pest control programs continue, prospects are good for higher production as well as better quality. In 1958 about 14,000 metric tons were produced.

### Subsidies, Credit, Taxation

#### Subsidies

In general there are no producer or deficiency payments to producers on crops or livestock products. Sometimes there are small subsidies paid on some crops (particularly industrial) to encourage use of fertilizer, spray, and so forth. These are paid usually from cooperative or district funds. There are subsidies on fertilizer, machinery, pesticides, and breeding stock which are paid to the producing plants or importers, and the end-user benefits by paying a retail price that has been reduced accordingly. (See p.13).

## Credit

The farm credit system is designed to promote the socialization of agriculture and production along planned lines. Credit for private farmers is funneled through the General Agricultural Cooperatives, and only those farmers (whether members or nonmembers) who follow the plans of the cooperatives can obtain loans. Short-term loans, repayable within 1 year, are for such purposes as payment for agricultural machinery services and purchases of such items as seeds and fertilizers. Long-term loans, repayable within 10 years, are granted for the purchase of such items as breeding stock and building materials and for the maintenance of farm buildings and the construction of such necessary farm adjuncts as pens and manure pits.

Aside from friends and relatives, virtually the only other source of agricultural credit for private farmers is the voluntary contracting system. Under this system the farmer agrees under contract with the GAC to plant a certain area to a specific crop, and is paid a **percentage** of the contracted value of the crop on signing the contract.

The GAC, collectives, State Farms, and certain other so-called economic organizations in the agricultural section (e.g., agricultural institutes, enterprises for the trade in seeds and other agricultural supplies) can obtain credit at specially low interest rates--2.5 or 3 percent for short-term loans, which are granted only for specific nonroutine purposes, and 2.5 percent for loans intended for use as working capital, which in Yugoslavia are granted in the form of long-term credits. Loans for investment ordinarily carry an interest rate of 3.5 percent, and the repayment period ranges from 5 to 40 years, depending on the investment project. They are granted by way of competitive request, unless intended for such purposes as purchase of farm machinery and pedigreed livestock or orchard and vineyard improvement. The agricultural enterprise receiving the credit must furnish a certain percentage of the investment from its own funds.

A new Agricultural Bank was established January 1, 1959, to take over agricultural financing, formerly carried out by several banks and institutions. Its functions are to provide credits to agricultural and cooperative organizations, to distribute investment funds, and to provide a uniform policy of credit and investment in agriculture.

Chiefly because of increased loans to the GAC, the volume of short-term and working capital credit advanced to the socialized sector more than doubled between 1955 and 1957. Though continuing to increase, the credits granted agriculture remain small compared to those granted the rest of the economy, as does the share of private farmers in the total made available for agriculture.

## Taxation

From 1952 to 1958, land taxes in Yugoslavia were based on "cadastral income" derived by the authorities from a consideration of the area and quality of land as well as the type of cultivation. Prior to that time, tax



was levied according to estimated actual income, the amount of which was established by local tax commissioners. Since 1958, taxation has continued to be levied on the cadastral income method though the means and potentials of production are given some weight in the calculation. For example, when conditions exist for raising livestock or for producing certain crops, the farmer is taxed accordingly, regardless whether or not he has an income from such.

Since 1956 a tax also has been levied on draft animals, production equipment, vehicles, or any other property belonging to private producers from which income might be derived. The tax on these items is earmarked for road and agricultural development within the municipality, county, or republic. The State Farms, Peasant Work Cooperatives, and General Agricultural Cooperatives are exempted from the property tax; they pay the cadastral taxes, not to the government, but to their own development funds. In addition, the republics in 1956 were authorized to impose a supplementary tax on income from such crops as hops, rice, tobacco, and marasca cherries grown by individual producers. This was done to tax crops not adequately covered in the cadastral income calculations. As a result of these various measures, the amount of taxes collected have shown a considerable increase.

Agricultural producers also pay other taxes, such as turnover tax which the producer passes on to the consumer by a markup in price; local contributions for social and cultural projects; and, in some areas, a field tax or a pasture tax must be paid.

### Marketing and Prices

On the whole, the internal marketing system in Yugoslavia has been unsatisfactory, chiefly because of inadequate storage and transportation facilities. These conditions have led to wide variations in prices in different localities. Sometimes even the guaranteed price to the farmer for contracted grain cannot be maintained because of lack of storage space.

The organization of trade in farm products has been undergoing numerous changes since World War II. After compulsory deliveries were abolished in 1953, wide freedom was allowed the peasants in disposing of their products. They could sell commercial quantities of commodities direct to socialist wholesale enterprises or to the General Agricultural Cooperatives, whether under contract at a fixed price or otherwise; they also could sell retail, direct to the consumer, through the farmers' markets, where prices were formed freely by supply and demand. In addition, they could make large bulk sales to socialist enterprises engaged in trade or processing.

The farmers apparently prefer to sell on their own markets, but the role of the General Agricultural Cooperatives in marketing is being increasingly stressed. They now are to handle all purchasing from the farmers for the commercial network. The trade and industrial enterprises must purchase directly from them or through the business associations which have been established by the cooperatives.

Retail prices either are controlled (flour, bread, sugar, edible oil, imported lard, and pasteurized milk) or subject to control if they are increased too greatly. Until lately, when supplies of some food commodities were scarce and prices to consumers rose, the government often imported the item and placed it on the domestic market at a lower price in order to keep down the domestic prices.

After compulsory deliveries were ended in 1953, farm prices began to rise. In an effort to stabilize prices and at the same time to stimulate production, the government introduced a system of voluntary precontracting of grains at fixed prices, equivalent to a semi-price-support program. Private farmers could contract to produce any amount of a certain commodity and receive a guaranteed price. The contract system had long been in effect (even before the war) for some industrial crops for which the entire crop is contracted at a fixed price.

A new type of price support, still in effect, was introduced for grain crops with the season of 1957. The government announces the support price before crops are planted and guarantees to purchase the grain from the collectives or PWC, State Farms, and General Agricultural Cooperatives at the end of the season. In case these organizations have been unable to market grain produced or purchased from the private farmers, they are assured the support price by storing the grain. While the system applies to the socialist sector, the private peasant also benefits because the cooperative which purchases from the farmer is obliged to pay him the equivalent of the guaranteed price. Minimum protective prices are also in effect, through the socialist sector, for high-quality cattle, sheep, meat-type hogs, and poultry. Until 1959 minimum purchasing prices also were fixed for grapes, plums, and wine, but, because of the excellent crop that year, it was decided that prices would be formed on the market by the economic process. In practice, however, representatives of the cooperative business associations, the wholesale trade, the Chamber of Agriculture, the Chamber of Commerce, and other interested organizations meet and decide on appropriate purchasing prices to suggest to local buying organizations (usually cooperatives).

### Food Consumption

Average daily consumption per person of 2,750 calories in 1958-59, slightly higher than the prewar level, is adequate in quantity. The diet, however, though to a small degree of better composition than before the war, is not well balanced. Calories derived from cereals supply about 63 percent of the total, while meat, milk, cheese, and eggs supply only about 12 percent. By comparison, this proportion is 24 percent in Austria.

Total grain consumption, in terms of flour, has decreased, but Yugoslavia remains one of the highest consumers of grain in Europe on a per capita basis. However, there has been a shift from corn to wheat as the most important cereal in the diet. Per capita consumption of sugar, still low, has tripled compared to prewar and probably will continue to increase. There is not much change in per capita consumption of meat, which is among the lowest in Europe. Pork is the principal meat in the diet (44 percent) followed by

TABLE 9.--Estimated food balance: Consumption year 1958-59  
(excluding alcoholic beverages)

Population: 18,300,000

Product	Supply										Utilization									
	Production	: Net : trade : changes :	: Stock :	: Total :	: and : waste :	Nonfood uses				Supply for food										
						: Seed :	: Feed and : industrial :	: Total :	: Extr. :	: Total :	: gross :	: rates :	: Total :	: Per capita :						
															: Per year :	: Per day :				
----- 1,000 metric tons -----										:Percent:1,000 m.t.:Kilograms:Calories										
Wheat and rye.....	2,691	781	-228	3,700	525	72	597	3,103	80	2,489	136.0	1,300								
Other grains.....	4,765	-463	-695	4,997	462	3,598	4,060	937	85	793	43.3	435								
Total.....	7,456	318	-923	8,697	987	3,670	4,657	4,040		3,282	179.3	1,735								
Sugar, refined.....	180	96		276		35	35			241	13.2	140								
Potatoes.....	2,620	13		2,633	1/520	2/1,009	1,529			1,104	60.3	115								
Legumes, dry.....	125	9	- 41	175	20		20			155	8.5	80								
Other vegetables, fruit and nuts..	4,207	-85	100	4,022		3/2,271	2,271			1,751	95.7	85								
Meat, (carcass wt.) 4/.....	533	-80		453						453	24.8	145								
Fish, (landed wt.).....	30	-12		18						18	1.0	(5/)								
Fats and oils (fat content).....	162	61		223		33	33			190	10.4	260								
Cheese.....	137	6		143						143	7.8	30								
Whole milk.....	2,467	- 1		2,466		6/1,097	1,097			1,369	74.8	140								
Eggs.....	92	-10		82						82	4.5	20								
Total consumption												2,750								

1/ Seed only.
2/ Includes waste.
3/ Feed and waste.
4/ Production and trade of meat include exports of live animals (carcass wt.).
5/ Negligible.
6/ Includes feed and that used in the manufacture of butter, kajmak, and cheese.

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beef and veal (25 percent). Poultry, mutton, lamb, and goat meat supply 24 percent; other meats and offals make up the rest.

Total per capita fat consumption as food increased about 55 percent compared to prewar, chiefly through imports. Although more pork fat is being consumed, the increase also reflects a vegetable oil consumption almost 3-1/2 times as great as that of prewar. Milk consumption, though higher than in Mediterranean countries, is extremely low compared to the West European level, but is increasing. Egg consumption has increased compared to prewar but is also low compared to the West European level.

### Foreign Trade in Agricultural Products

The share of agricultural products in the total value of exports, which was 60 percent before the war, was less than 40 percent in 1958. On the other hand, their share in the total value of imports, only 18 percent during 1933-37, was 30 percent in 1958.

In 1958, corn, meat and meat preparations, tobacco, fruits and nuts, and live cattle accounted for two-thirds of the total value of all agricultural exports. Other important exports included eggs, hops, vegetables, and other live animals. The chief countries to which Yugoslavia exported agricultural products in 1958 were Italy (chiefly cattle, beef, and eggs), West Germany (chiefly corn), and the United Kingdom (chiefly corn and canned meat).

During the postwar years, wheat and cotton have constituted the chief agricultural imports. In 1958 they accounted for 45 percent of all agricultural imports. Wheat, an important export before World War II, represented 9 percent of the total value of all imports. Lard, also an export commodity before the war, has been imported during the postwar years. Imports of vegetable oils and seeds have greatly increased during the postwar years. Cotton has always been an important import.

The United States has been Yugoslavia's chief supplier of agricultural products since 1951 when, together with the United Kingdom and France, it began to extend economic aid to Yugoslavia because of the severe drought of 1950. In 1958 the United States, chiefly through special programs, furnished 53 percent of Yugoslavia's agricultural imports.

Since 1955, the major part of U. S. agricultural shipments to Yugoslavia has been through Title I of the Agricultural Trade Development and Assistance Act (PL 480). Agreements signed with Yugoslavia, from January 1955 through December 1959, have provided for the shipment of surplus agricultural commodities with a market value of approximately \$400 million, including \$50 million ocean transportation.

The agreements provide that 80 percent of the equivalent dinars which accrue from the sales of these commodities will be used to promote economic development in Yugoslavia (27 percent as grants and 53 percent as loans). The rest (20 percent) is for use of the United States.



TABLE 10.--Exports of principal agricultural products: Value and percent of total, selected averages 1933-57, annual 1957 and 1958

Commodity	1933-37		1953-57		1957		1958	
	: Million : dinars	: Percent 1/:of total	: Million : dinars	: Percent 1/:of total	: Million : dinars	: Percent 1/:of total	: Million : dinars	: Percent 1/:of total
<b>Crop products:</b>								
Corn.....	420	9.6	1,200	1.4	900	.8	9,200	6.9
Wheat.....	235	5.3	0	0	0	0	0	0
Tobacco, leaf.....	112	2.6	4,200	5.0	5,700	4.8	8,100	6.1
Hemp, raw.....	89	2.0	500	.6	200	.2	400	.3
Hops.....	81	1.8	1,300	1.5	2,400	2.0	2,100	1.6
Opium.....	16	.4	100	.1	200	.2	100	.1
Plums,fresh or dried	120	2.7	1,500	1.8	1,900	1.6	2,300	1.7
Other fruits and nuts.....	58	1.3	1,900	2.3	3,100	2.6	2,400	1.8
Vegetables.....	74	1.7	1,100	1.3	1,100	.9	1,400	1.1
Other crop products.	269	6.2	3,700	4.4	5,200	4.4	7,600	5.8
<b>Total.....</b>	<b>1,474</b>	<b>33.6</b>	<b>15,500</b>	<b>18.4</b>	<b>20,700</b>	<b>17.5</b>	<b>33,600</b>	<b>25.4</b>
<b>Livestock products:</b>								
Hogs.....	298	6.8	800	1.0	300	.3	400	.3
Cattle.....	161	3.6	3,000	3.6	4,800	4.0	3,600	2.7
Poultry.....	64	1.5	(2/)	(2/)	100	.1	100	.1
Other live animals..	47	1.1	1,100	1.2	1,300	1.1	900	.7
Meat and prepara- tions.....	226	5.1	4,200	5.0	7,000	5.9	8,200	6.2
Eggs.....	127	2.9	2,100	2.5	1,700	1.4	2,300	1.7
Hides and skins.....	98	2.2	300	.4	100	.1	100	.1
Pork fat.....	63	1.4	0	0	0	0	0	0
Down and feathers...	39	.9	700	.8	500	.4	400	.3
Wool, raw.....	12	.3	400	.5	400	.3	100	.1
Other livestock products.....	32	.8	500	.6	900	.8	600	.4
<b>Total.....</b>	<b>1,167</b>	<b>26.6</b>	<b>13,100</b>	<b>15.6</b>	<b>17,100</b>	<b>14.4</b>	<b>16,700</b>	<b>12.6</b>
<b>Products of sericul- ture and apiculture.</b>								
	7	.2	200	.2	300	.3	200	.1
<b>Total agricul- tural exports....</b>	<b>2,648</b>	<b>60.4</b>	<b>28,800</b>	<b>34.2</b>	<b>38,100</b>	<b>32.2</b>	<b>50,500</b>	<b>38.1</b>
<b>All other.....</b>	<b>1,739</b>	<b>39.6</b>	<b>55,300</b>	<b>65.8</b>	<b>80,400</b>	<b>67.8</b>	<b>81,900</b>	<b>61.9</b>
<b>Total exports....</b>	<b>4,387</b>	<b>100.0</b>	<b>84,100</b>	<b>100.0</b>	<b>118,500</b>	<b>100.0</b>	<b>132,400</b>	<b>100.0</b>

1/ Prewar and postwar dinars are not comparable; value of dinar during 1933-37 was U.S. \$0.02; official rate since 1952 of 300 dinars per dollar is meaningless for trade, which is controlled by a multiple exchange system.

2/ Negligible.

Statistique du Commerce Extérieur (Statistics of Foreign Trade) 1933-39, Belgrade;

Statistika Spoljni Trgovine FNRJ (Statistics of Foreign Trade) 1954-59, Belgrade.

TABLE 11.--Imports of principal agricultural products: Value and percent of total, selected averages 1933-57, annual 1957 and 1958

Commodity	1933-37		1953-57		1957		1958	
	: Million : :dinars	Percent 1/ of total	: Million : :dinars	Percent 1/ of total	: Million : :dinars	Percent 1/ of total	: Million : :dinars	Percent 1/ of total
Crop products:								
Wheat.....	0	0	24,300	17.5	28,300	14.3	18,600	9.0
Rice.....	67	1.3	800	.6	1,100	.5	1,100	.5
Cotton.....	264	5.3	8,700	6.3	9,400	4.7	8,600	4.2
Vegetable oils and seeds 2/.....	59	1.2	2,400	1.7	4,900	2.5	3,600	1.8
Sugar.....	(3/)	(3/)	2,000	1.4	3,500	1.8	4,600	2.2
Fruits and nuts.....	85	1.7	500	.4	900	.4	1,200	.6
Vegetables.....	10	.2	100	.1	100	.1	200	.1
Coffee,tea,cocoa....	67	1.4	1,300	.9	1,400	.7	2,000	1.0
Rubber.....	1	(3/)	1,100	.8	1,800	.9	1,400	.7
Other crop products..	62	1.2	2,700	1.9	2,000	1.0	1,200	.6
Total.....	615	12.3	43,900	31.6	53,400	26.9	42,500	20.7
Livestock products:								
Live animals.....	2	(3/)	300	.2	800	.4	2,200	1.1
Lard.....	0	0	3,400	2.5	3,000	1.5	2,200	1.1
Tallow.....	33	.6	600	.4	700	.4	900	.4
Hides and skins.....	112	2.3	1,900	1.4	3,200	1.6	2,600	1.3
Wool, raw.....	121	2.5	2,200	1.6	3,100	1.6	4,700	2.3
Other livestock products.....	29	.6	2,400	1.7	4,700	2.3	5,900	2.8
Total.....	297	6.0	10,800	7.8	15,500	7.8	18,500	9.0
Products of sericul- ture and apiculture.	3	.1	(3/)	(3/)	(3/)	(3/)	(3/)	(3/)
Total agricul- tural imports....	915	18.4	54,700	39.4	68,900	34.7	61,000	29.7
All other.....	4,060	81.6	84,000	60.6	129,500	65.3	144,500	70.3
Total imports....	4,975	100.0	138,700	100.0	198,400	100.0	205,500	100.0

1/ Prewar and postwar dinars are not comparable; value of dinar during 1933-37 was U. S.\$0.02; official rate since 1952 of 300 dinars per U. S. dollar is meaningless for trade, which is controlled by a multiple exchange system.

2/ Includes essential oils.

3/ Negligible.

Statistique du Commerce Extérieur (Statistics of Foreign Trade) 1933-39, Belgrade;

Statistika Spoljni Trgovine FNRJ (Statistics of Foreign Trade) 1954-59, Belgrade.

TABLE 12.--Commodity composition of PL 480, Title I programs signed and shipped through December 1959

Commodity	: Amounts programmed		: Amounts shipped	
	: Quantity : Market value		: Quantity : Market value	
	<u>1,000</u> <u>metric tons</u>	<u>Million</u> <u>dollars</u>	<u>1,000</u> <u>metric tons</u>	<u>Million</u> <u>dollars</u>
Wheat.....	3,677	228.5	3,666	227.2
Cotton.....	<u>1</u> / 95	64.3	<u>1</u> / 107	63.8
Lard.....	63	19.9	63	19.9
Tallow.....	10	1.8	10	1.8
Cottonseed oil.....	( <u>1</u> / 92	26.7	<u>1</u> / 4	1.1
Soybean oil.....	( <u>1</u> / 93	25.6	<u>1</u> / 93	25.6
Dry edible beans.....	11	1.8	10	1.8
Lemon and lemon juice....	1	.4	1	.4
Total.....		343.4		341.6
Ocean transportation		49.3		
Grand total		392.7		

1/ Amount programmed was probably at different price than that shipped.

Wheat has been the principal commodity of this program. Because of the large increase in wheat production in 1959, no wheat was requested by Yugoslavia for the 1959-60 consumption year. This will reduce the value of the PL 480 program, which, excluding ocean transportation, has averaged close to \$70 million annually since 1955.

Yugoslav foreign trade transactions are carried out by registered socialized enterprises whose activities are coordinated by the Federal Chamber of Foreign Trade. Imports are effected within an overall government supply plan and regulated through foreign exchange control. From time to time, exports of some commodities are embargoed, either temporarily or for longer duration, depending on the supply of the commodity.

### Outlook

The essence of Yugoslavia's agricultural policy is gradually to socialize the countryside, while increasing agricultural production so as to supply the population with food and industry with raw materials and at the same time to provide a surplus of some commodities for export. The present policy is to promote socialization through production by the private peasants under contract with the General Agricultural Cooperatives, without expropriation of land from the individual families.

Because of the Yugoslav Government's continued emphasis on industrial development and its neglect of agriculture until recent years, agriculture remained in a backward state. Recent policy, as manifested in a Resolution on Prospective Development of Agriculture and Cooperatives, passed in April 1957, and in the current Five Year Plan (1957-61), indicates that more attention now is being given to agriculture. Moreover, plans actually are being implemented. With the increased investments and a more liberal credit policy, there is every probability for a considerable increase in the output of field crops and livestock. Although little new land remains available for expanding the cultivated area, the land which has been left uncultivated for some time since World War II is being brought increasingly back into use. If irrigation, reclamation, deep plowing, increased use of fertilizer and high-quality seed continue to be stressed, output per hectare and per man as well as the cultivated area, will increase.

The Five Year Plan (1957-61) calls for a 41.2 percent increase in the total value of agricultural production over the 1951-55 average. Already in 1957 considerable progress had been made in meeting the goal for 1961. In 1959 the level thus aimed at for 1961 was surpassed because of a combination of favorable conditions, including continued increase in use of modern technology, growing peasant confidence, and--most important--exceptionally good weather. The task, however, is to establish this level as a more permanent average output, not just the result of a favorable year. Droughts are a periodic feature in Yugoslavia, offsetting much of the benefit obtained through technology. Also the peasant, not the least to be reckoned with, only just has begun to display confidence after his release from the numerous controls which have plagued him since World War II. A formidable task thus remains, but the output goals set by the plan are by no means unrealistic. If the present upward trend of production continues, Yugoslavia, in the not-too-distant future, again may become a net exporter of agricultural products, while at the same time raising the level of domestic consumption both as to quantity and quality.





